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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,398	09/20/2000	Paul A. P. Kaufholz	PHN 17-643	8968

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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BRIARCLIFF MANOR, NY 10510

EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 06/08/2004

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/666,398	Applicant(s) KAUFHOLZ, PAUL A. P.	
	Examiner Donald L. Storm	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

The Applicant's AMENDMENT AFTER FINAL REJECTION, filed on February 17, 2004 (paper 19), has been entered. An action continuing examination on the merits follows. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Informalities

2. Claim 11 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the audio signal detected by the microphone" needs clarification. Because no detection of audio was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phrase to refer to --the audio signal from a microphone--.

Claim Rejections - 35 USC § 103

Linder

3. Claims 1, 6, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder [International Publication WO 98/01956], already of record.

4. Regarding claim 11, Linder [at page 1, lines 8-23] describes a speech recognition apparatus that cancels noise for easier command recognition, comprising:

an audio input for receiving an audio signal from a microphone [at page 3, line 29-page 4, line 1, as an information signals interface for receiving a voice signal, such as a microphone];

the audio signal from the microphone includes a speech signal and background noise [at page 5, lines 20-24, as the microphone signal received the user's voice and noise, and generated an electrical signal];

a plurality of different background noises [at page 13, lines 7-11, as functioning of simultaneous horns, whistles, or other noise generators each having its own characteristic];

at least two independent audio sources generating audio source signals [at page 13, lines 7-11, as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously];

at least two additional audio inputs for receiving audio signals from the audio sources [at page 4, lines 19-23, as an input interface for receiving an audible signal which is emitted by a noise generator and at page 13, lines 7-8, as a duplicate of the apparatus];

the audio sources are respective to the additional audio inputs and the additional audio inputs receive the audio source signals respectively from the audio sources [at page 4, line 27-page 5, line 1, as the second microphone is located at or close enough to pick up for identification the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic used with a duplicate of the apparatus];

the audio sources are independent [at page 4, line 27-page 5, line 1, as the characteristic for identification of the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic];

both the audio sources contribute to the audio signal detected by (*Exmr: from*) the microphone from the audio source signals being arranged within a proximity to a sensitivity range of the microphone receiving the audio signal [at page 5, lines 20-23, as the siren noise is received by the microphone that receives the information signal and at page 13, lines 7-11, as other noise generators are functioning simultaneously in the duplicated apparatus];

an audio cancellation module [at page 6, lines 22-25, as a microprocessor that forms a processed signal with substantial information and negligible noise];

the audio cancellation module being operative to produce a speech signal by canceling the at least two audio source signals from the signal received from the microphone [at page 6, line 22-page 7, line 2, as a microprocessor that forms a processed signal by canceling the noise component of the signal while substantially maintaining the voice signal received by the microphone and at page 13, lines 7-8, as a duplicate of the apparatus used in systems when other noise generators are functioning simultaneously];

and received from the additional audio inputs [at page 4, line 27-page 5, line 1, as the second microphone is to pick up for identification the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic used with a duplicate of the apparatus];

the remainder of the audio signal received by the microphone that is left by the audio cancellation module comprises primarily the speech signal [at page 6, line 22-page 7, line 2, as the microprocessor effect is to form a signal which substantially maintains the voice signal received by the microphone].

Linder [at page 13, lines 7-11] describes at least two independent audio sources generating audio source signals as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously. Therefore, when Linder describes duplicating the apparatus and method for use in the environment of other noise sources, Linder does not explicitly describe that both of the at least two audio sources contribute to a plurality of different background noises that mix with the audio signal to be included with the audio signal from the microphone that receives the information signal. However, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that the reason for Linder to teach duplicating the noise cancellation apparatus and method is because the signal received by the microphone receiving the information has contributions from the plurality of noises of all of the audio source signals that are within range being mixed in with the information signal that Linder describes in the noisy environment within the sensitivity range of the information microphone.

5. Claim 7 sets forth limitations similar to limitations set forth in claim 11. Linder describes and makes obvious the limitations as indicated there. Linder also describes additional limitations as follows:

the at least two independent audio sources are apparatuses [at page 13, lines 7-11, as horns, whistles, or other noise generators];

a speech recognizer [at page 10, lines 5-9, as a speech recognition circuit];

for recognizing at least part of the speech signal [at page 1, lines 18-20, as recognizing voice commands understood from a user's voice message].

6. Claim 1 sets forth limitations similar to limitations set forth in claim 11. Linder describes and makes obvious the similar limitations as indicated there. Claim 1, however, is directed toward placement of the two additional , respective audio inputs and the signals that they receive, unlike claims 7 and 11 that are directed toward the signals including speech that are received by the microphone. Consequently, claim 1 does not explicitly include the limitation of arrangement of the (two or more) audio source signals within proximity of the microphone. Instead, claim 1 includes the following limitations, which Linder also describes as follows:

the at least two audio sources primarily do not include speech of the speech signal [at page 4, lines 21-26, as receiving the siren signal by the second microphone picks up negligible voice & at page 13, lines 7-11, as other noise generators used with a duplicate of the apparatus];

each respective audio input being arranged within a proximity of a respective audio source [at page 4, line 27-page 5, line 1, as the second microphone is located at or close enough to pick up for identification the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic used with a duplicate of the apparatus];

a speech recognizer [at page 10, lines 5-9, as a speech recognition circuit];

for recognizing at least part of the speech signal [at page 1, lines 18-20, as recognizing voice commands understood from a user's voice message].

Linder [at page 13, lines 7-11] describes at least two independent audio sources generating audio source signals as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously. Therefore, when Linder describes duplicating the apparatus and method for use in the environment of other noise sources, Linder does not explicitly describe that both of the at least two audio sources contribute to a plurality of different background noises that mix with the audio signal to be included with the audio signal from the microphone

that receives the information signal. However, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that the reason for Linder to teach duplicating the noise cancellation apparatus and method is because the signal received by the microphone receiving the information has contributions from the plurality of noises of all of the audio source signals that are within range being mixed in with the information signal that Linder describes in the noisy environment within the sensitivity range of the information microphone.

Neither does Linder's teaching of duplicating the apparatus and method explicitly describe that each of the duplicated audio inputs is respectively near its audio source. However, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that duplicating Linder's apparatus and method would also duplicate Linder's description that the second input be located at the noise source. This would provide a third input (that is, the duplicate) located at another noise source because such placement would pick up negligible voice, but pick up the other noise signal and provide it for cancellation from the microphone that picks up both the noise and the voice.

7. Claim 6 is set forth including the limitations of claim 1. Linder describes and make obvious those limitations as indicated there.

Linder also describes additional limitations as follows:

the speech recognition apparatus includes at least one audio input for receiving an audio signal from an audio source external to the apparatus [at page 4, lines 19-23, as an input interface for receiving an audible signal which is emitted by a noise generator and picked up by the second microphone;

the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal [at page 6, line 28-page 7, line 7, as the effect is to cancel the noise component while maintaining the information component].

Linder and Houser

8. Claims 2, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder [International Publication WO 98/01956] in view of Houser et al. [US Patent 5,774,859], both already of record.

9. Claim 8 is set forth including the limitations of claim 7. Linder describes and makes obvious those limitations as indicated there.

Linder [at page 10, lines 7-9] describes that canceling the noise enables a speech recognition circuit to control a device and an interface.

Houser [at column 17, lines 30-38] also describes a consumer entertainment system that includes a second input for noise cancellation, including [at column 6, lines 4-6] a speech recognizer for converting spoken audio into text or commands. Houser also describes additional limitations as follows:

a control unit [at column 5, line 62-63, as terminal unit processor];

in response to a spoken instruction of the user is recognized by the speech recognizer [at column 5, line 58-column 6, line 3, as executing commands recognized from spoken command data by the speech recognition algorithm];

for issuing at least one command message to an apparatus in the system [column 5, line 67-column 6, line 3 generating a command for controlling a device];

via a communication network [at column 7, lines 55-58, as a communication link, for example, a network].

In order to follow Linder's teaching of device control using a transmitter interface and speech recognition it would have been obvious to one of ordinary skill in the art of linking communications to devices to include Houser's concepts of providing a network and network transmission as a link to the devices that Linder's speech recognition would control because duplicate noise inputs and noise cancellation apparatuses in Houser's front end would deal with two noise sources as taught by Linder and provide a cleaner speech signal for Houser's speech recognizer since interfering noises from two independent noise sources could be canceled.

10. Claim 2 is set forth including the limitations of claim 1, and with additional limitations similar to limitations set forth in claim 8. Linder and Houser describe and make obvious those limitations as indicated there. Houser also describes further additional limitations as follows:

the command message is issued to a further apparatus [at column 7, lines 55-58, as the command is passed to a device].

11. Claim 3 is set forth including the limitations of claims 1-2. Linder and Houser describe and make obvious those limitations as indicated there. Houser also describes additional limitations as follows:

the controller is operative to issue the command message according to a remote control messages associated with the further apparatus [at column 14, lines 40-47, as the terminal unit transmits commands to VCR by, for example, IR signals].

Linder and Allen

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linder [International Publication WO 98/01956] in view of Allen et al. [US Patent 5,485,515], both already of record.

13. Claim 4 is set forth including the limitations of claim 1. Linder describes and makes obvious those limitations as indicated there. Linder [at page 1, lines 8-23] also describes telephone communications.

However, Linder does not explicitly describe receiving the cancellation audio signals across a network.

Like Linder, Allen [at column 1, lines 22-28] describes that canceling the noises enables communication to and from a vehicle by telephone, and Allen describes:

at least one of the audio signals is received via the communication network from the associated audio source apparatus [at column 4, lines 8-12, as the noise indicative signal of the background noise in the near-end environment is received by the noise compensation system contained within the telephone network].

In Figure 1, Allen has placed the noise cancellation apparatus in the communication channel between two speakers. Allen [at column 4, lines 25-28] points out that by including the noise compensation system within the telephone network, the benefits of noise compensation to be obtained with the use of conventional terminal telephone equipment. In view of Linder's use of noise cancellation use for telephones, it would have been obvious to one of ordinary skill in the art of noise cancellation at the time of invention to include Allen's concept of receiving the cancellation audio signal across a network for noise cancellation within the telephone

communication network connection (that is made obvious by Linder) because that would have provided the benefit of noise cancellation from more than one noise source connected to the network without requiring that specialized noise cancellation equipment be installed at the locations of each telephone.

Linder and Houser and Allen

14. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder [International Publication WO 98/01956] and Houser et al. [US Patent 5,774,859] in view of Allen et al. [US Patent 5,485,515], all already of record.

15. Claim 9 is set forth including the limitations of claims 7-8. Linder and Houser describe and make obvious those limitations as indicated there. Houser [at column 7, line 58] also describes the network may be a telephone network; Linder [at page 1, lines 8-23] describes telephone communications.

However, neither Linder nor Houser explicitly describes receiving the cancellation audio signals across a network.

Like Linder, Allen [at column 1, lines 22-28] describes that canceling the noises enables communication to and from a vehicle by telephone, and Allen describes:

at least one of the audio signals is received via the communication network from the associated audio source apparatus [at column 4, lines 8-12, as the noise indicative signal of the background noise in the near-end environment is received by the noise compensation system contained within the telephone network].

In Figure 1, Allen has placed the noise cancellation apparatus in the communication channel between two speakers. Allen [at column 4, lines 25-28] points out that by including the noise compensation system within the telephone network, the benefits of noise compensation to be obtained with the use of conventional terminal telephone equipment. In view of Linder's use of noise cancellation use for telephones, it would have been obvious to one of ordinary skill in the art of noise cancellation at the time of invention to include Allen's concept of receiving the cancellation audio signal across a network for noise cancellation within the telephone communication network connection (that is made obvious by Linder and Houser) because that would have provided the benefit of noise cancellation from more than one noise source connected to the network without requiring that specialized noise cancellation equipment be installed at the locations of each telephone.

16. Claim 10 is set forth including the limitations of claims 7-9. Linder, Houser, and Allen describe and make obvious those limitations as indicated there. Houser also describes additional limitations as follows:

the audio cancellation module is located in an apparatus of the system [at column 6, lines 39-44, as terminal unit includes a front end for noise cancellation];

where the apparatus includes at least one audio input for receiving an audio signal from an audio source apparatus external to the apparatus; the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal [at column 17, lines 30-32, as the speech input device includes a second microphone which receives the television audio to be subtracted from the microphone input data].

Response to Arguments

17. The prior Office action, mailed December 30, 2003 (paper 18), rejects claims under 35 USC § 103, citing Linder alone and with others. The Applicant's arguments and changes in AMENDMENT AFTER FINAL REJECTION filed February 17, 2004 (paper 19) have been fully considered with the following results.

18. With respect to rejection of claims under 35 USC § 103, citing Linder alone and in combination, the Applicant's arguments appear to be as follows:

a. The Applicant's argument appears to be that Linder's input interface for receiving an audible signal which is emitted by a noise generator must be the common input to pick up all noise source signals because it is the only noise receiver that Linder discloses. Linder does not discuss how multiple noises would be handled. This argument is not persuasive because Linder [at page 13, lines 7-8] also discloses using a duplicate of the apparatus when other noise generators are functioning simultaneously. A duplicate of the apparatus would have a duplicate of the input interface for receiving an audible signal that is emitted by a noise generator and would duplicate the noise cancellation using the other simultaneous noise signal. Linder expressly discusses that a duplicate of the apparatus would be used in systems when other noise generators are functioning simultaneously.

b. The Applicant's argument appears to be that there is no reason why Linder would lead an artisan to use additional input interfaces for receiving other audible signals, which are emitted by other noise generators. This argument is not persuasive because Linder [at page 13, lines 7-8] explicitly discloses that a reason for a duplicate of the apparatus would be present when other noise generators are functioning simultaneously. Linder discloses that the noise input

interface is located at the noise signal or close enough to pick up it up for identification. To the extent that Linder's disclosure of a duplicate of the apparatus does not necessarily mean that the duplicate noise input interface is located at another noise source, Linder would at least make it obvious to one of ordinary skill in noise cancellation to locate the additional noise pick-ups close to the additional noise sources.

c. The Applicant's argument appears to be that there is a particular advantage to having a speech recognizer coupled to more than one sound producing apparatus. This argument is not persuasive because the features upon which the Applicant's argument relies are not recited in the rejected claims. That feature upon which the Applicant's argument relies is only recited in claim 1, and there, it is only set forth as nomenclature for the apparatus in the preamble of the claim. The limitations in the body of the claim are able to stand alone. The body of the claim fully and intrinsically sets forth a complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

19. With respect to rejection of claims under 35 USC § 103, citing Eriksson in combination, the rejections are removed in favor of the new grounds of rejection.

Conclusion

20. Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

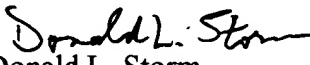
(703) 872-9306, (for informal or draft communications, and please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA (Sixth Floor, Receptionist)

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (703) 305-3941. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov.

June 7, 2004


Donald L. Storm
Patent Examiner
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